

Environmental Assessment
for
WILDCAT CREEK DRAINAGE AQUATIC HABITAT RESTORATION PLAN
EA NO. OR090-EA-04-05

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United States
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Eugene District Office
Siuslaw Resource Area

**U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
EUGENE DISTRICT**

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I. INTRODUCTION

A. PURPOSE AND NEED

Wildcat Creek is a larger sixth order tributary of the Siuslaw River with origins located in the Central Coast Range, Western Lane County, Oregon. The head waters begin in T18S, R6W, Sections 20, 21. Shady Creek is a third order tributary of Chickahominy Creek (a Wildcat Creek tributary). The head waters begin in T17S, R7W, Section 30. Harvesting of timber resources; agriculture and human settlement with its related habitat alteration; and harvests of fish have led to fish runs that number a fraction of their original size in the Siuslaw River and Wildcat Creek basins (BLM, 1999). Human activities, including logging and road construction, have degraded stream habitat for chinook, coho, and steelhead in the lower reaches of Wildcat Creek (ODFW, 1996). The purpose of this restoration plan as related to the Aquatic Conservation Strategy objectives (ASC) is to improve the quality and quantity of appropriate habitats in stream reaches of the Wildcat Creek drainage and to restore spatial and temporal connectivity by removing barrier culverts to benefit all fish species, other aquatic organisms, riparian plant communities, and wildlife species found here. In addition, the restoration of conifers in the riparian would be addressed to provide future amounts and distributions of coarse woody debris that would enhance long term stream complexity and stability. Future restoration proposals are anticipated within the Wildcat Creek watershed. These projects would tier to the environmental assessment.

B. CONFORMANCE

The proposed action and alternatives are in conformance with the Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents within the Range of the Northern Spotted Owl, April 1994 (ROD) , and the Eugene District Record of Decision and Resource Management Plan, June 1995 (Eugene District ROD/RMP) as amended. This EA is tiered to these Environmental Impact Statements.

The Proposed Action is in conformance with the Aquatic Conservation Strategy in the Northwest Forest Plan. Information summarized in the Wildcat Creek Aquatic and Riparian Habitat Restoration Plan is from the Eugene District Wildcat Creek Watershed Analysis (March 1999) and the Siuslaw Watershed Analysis (March 1996).

The Proposed Action and Alternatives (except the no action) are consistent with management triggers and criteria identified in Table 7 of the Late Successional Reserve Assessment, Oregon Coast Province - Southern Portion (R0267, R0268), June 1997.

A permit for General Authorization for Fill Removal from Oregon Department of State Lands would be obtained prior to the implementation of projects in both areas.

II. ISSUES SELECTED FOR ANALYSIS

Issue 1: Would the proposed stream enhancement affect the attainment of the Aquatic Conservation Strategy (ACS) objectives?

Issue 2: How would project implementation affect unauthorized Off Highway Vehicle (OHV) use?

III. PROPOSED ACTION AND ALTERNATIVES

This EA covers:

Wildcat Creek Aquatic Habitat Restoration Project – T18S, R7W, Section 13

Wildcat Creek Culvert Removal – T18S, R6W, Section 19

Shady Creek Aquatic Habitat Restoration Project – T17S, R7W, Section 29

A. Alternative 1 - Proposed Action - Restoration with Culvert Removal

The proposed action could include five general categories of work. One or more activities may be performed at each of the project locations.

1. Culvert Rehabilitation

Culverts may create barriers to the movements of anadromous fish and other aquatic species and contribute to modifications in natural hydrologic processes that may create flood and erosion hazards.

- a. Removal – Culverts are removed and not replaced. The removal would involve digging out and lifting each culvert. The channel where the culverts would be removed would be shaped and stabilized to reduce the potential for erosion.
- b. Replacement – The existing culvert would be removed by digging out and lifting from its location in the streambed. The culvert would be replaced with another culvert or a half-arch. The type of replacement and size would depend upon the existing substrates, flows at the site and the need to provide for movement of anadromous fish and aquatic organisms up- and down-stream. Additional excavation may be needed to accommodate a larger structure or a structure of a different type. Excavated areas would be stabilized and protection provided to reduce the potential for erosion.
- c. Improved access – For culverts creating a barrier to movements of anadromous fish and other aquatic organisms, and where removal or replacements are not feasible, access to the culvert may be created or improved by placement of structural material in the channel. This structural material would be primarily logs and boulders placed to elevate the stream channel and create pools to facilitate movement into the culvert. Short-term disturbance of the stream channel and stream bank may occur as a result of accessing the channel with equipment and materials and from working within the stream channel.
- d. Improved culvert passage – When culverts are too steep to permit passage and either replacement or removals are not feasible, passage through the culvert may be facilitated by placement of baffles, weirs, or similar type structures in the culvert. This breaks up velocity barriers and provides resting places for fish and other aquatic organisms.

Three culverts in section 19 are proposed for removal. Two culverts occur on unnamed tributaries of upper Wildcat Creek and the other is located in the mainstem. The project sites are denoted on Attachments 1 and 2. These culverts are a migration barrier to coho and other aquatic organisms. Soil barriers near the culvert removals could be constructed for public safety.

2. Channel Structure

Channel structuring involves placement of materials in the channel to raise the channel elevations and to increase the complexity of habitat in the channel. Materials used in this process are primarily logs, boulders, stumps, rock and gravel. Designs are based on existing structural features occurring naturally in the system, and on structures previously developed by the Eugene District, other BLM Districts, or other agencies. Proposed structures are designed to be specific to a location, and take into account existing channel and riparian features.

Off-site materials may be delivered to designated project sites well in advance of project work and stockpiled at the project site; or they may be delivered to the site at the time they would be used, reducing the need for stockpiling and handling.

Creation of structural features utilizes some hand work, but primarily involves use of heavy equipment to deliver and place the materials. When possible, to avoid disrupting deep stream channel substrate during placement of large woody debris (LWD) and boulders, heavy equipment with an articulating head would be used that would allow for the placements from one location adjacent to the project area. Heavy equipment with a bucket and thumb set-up or similar device,

which can not effectively place materials from outside the stream channel (when deep gravel habitats are present), would be prohibited.

Once in place, the larger structural materials are generally anchored to the substrate using cables and epoxy. Smaller logs, rock, and gravel may be allowed to move in response to the current. Because of the lack of retention features, many of the materials, particularly logs and stumps, would move out of the river system if not anchored. Once anchored, they create collection points to retain placed material or materials entering the channel from adjoining slopes. Structural materials for most project work would be delivered to the channel and placed in position in the channel using spiders (walking excavators), excavators, front end loaders or similar equipment. Temporary access would be generally created from existing roads through the riparian area to the channel. Most access routes would be less than 200 feet in length, are generally located in areas where riparian vegetation restoration is planned, and may be sub-soiled after project work is completed to create planting sites. The development and rehabilitation of the access routes are designed to reduce the potential for erosion and channel disturbance, and in many locations utilize existing older roads and accesses.

Guidelines established for timing of stream enhancement work by the Oregon Department of Fish and Wildlife (ODFW) would be adopted. Changes to the guidelines would be in concurrence with ODFW.

Activities associated with projects within 100 yards of suitable murrelet habitat would not begin until 2 hours after sunrise and shall end 2 hours before sunset. This restriction would be in effect from July 1 through September 15.

Several types of channel structures are proposed. The structures are placed in combinations in and along the channel. Design depends upon the existing conditions and potential of the site. The following descriptions are for the general types of structures used:

- a. Weirs – Weirs are full-spanning structures of logs, boulders and/or stumps. They extend up the bank to protect against erosion around the end of the weir. The height and length depend on the individual site conditions.
- b. Jetties – Jetties are structures of boulders, logs and/or stumps extending from the bank into the channel but not spanning the channel. They are designed to redirect flow and to create diverse habitats along the margins of the channel.
- c. Ramp logs – Ramp logs are logs with one end up on the bank and the other end extending into the channel. They function similarly to jetties.
- d. Log and boulder placement – Individual or clusters of logs, boulders, and/or stumps are placed in the channel in various positions to break up flows, create small islands, and increase habitat diversity.
- e. Gravel placement – Although natural gravel delivery is not a limiting factor to the stream channel, gravels may be placed in the channel, below and above culvert replacement sites to facilitate development of salmonid spawning and insect production (fish food) areas. Gravel is usually placed in the channel above the locations where it is needed, and the current is used to distribute the gravel to the structures. However, a stone slinger could be used to deliver gravels directly to a specific project site.

The Wildcat Creek project area (sec. 13) has 21 log projects planned. The project sites are denoted on Attachments 1 and 3. Shady Creek project area (sec. 29) has 11 log projects planned. These project sites are denoted on Attachments 4 and 5. All projects consist of log jams and ramp logs. Logs would not be cabled.

3. Riparian Restoration

The purpose of riparian restoration is to increase the percentage of conifers in the riparian area as a future source of large woody material in the channel as well as snags and woody debris in the riparian area. The riparian zones contain red alder, big leaf maple, and mixed-age conifers. Restoration efforts are planned primarily for the red alder dominated communities.

In developing accesses from existing roads into the stream channels, routes are selected that facilitate riparian restoration. Red alder and a few small Douglas fir trees along the access routes would be removed, with the downed trees placed in nearby riparian areas or in the stream channel. Additional red alder may be removed in small patches adjoining the access routes to

reduce shading in planting sites. Brush may be removed from additional adjoining sites. The sites where trees and brush are removed from the access routes are not usually subsoiled. Trees are felled using chain saws or other hand equipment or felled using heavy equipment (e.g., excavator). Brush is generally removed in areas where trees are felled. Conifers and larger big leaf maple are preserved wherever possible. Where younger conifers are present, competing vegetation may be removed to release conifers and hasten structural development.

During the subsequent planting season, usually the winter months following site preparation, trees are planted in the prepared locations. Species for planting include Douglas-fir, western red cedar, and western hemlock; depending on the site conditions and proposed species mix. Trees are generally tubed to reduce browsing. Competing vegetation may be controlled by placing mats around the trees, or by brushing during subsequent years.

Riparian restoration is planned for access routes to Wildcat Creek (Sec. 13) and access routes to Shady Creek (Sec. 29).

4. Road Stabilization

Several options are identified for addressing problems to the aquatic system created by roads. The road network that extends throughout the Wildcat Creek drainage project area is managed by BLM and private owners. Frequently, multiple users have rights of way on existing roads. Options for addressing problems in the aquatic system due to roads depend upon decisions made cooperatively by the agencies, companies, and individuals that control or use a particular road segment. Options identified for road rehabilitation include:

- a. Surfacing of roads – Roads, particularly those used in wetter periods, may be surfaced with rock or paved to reduce the potential for silt entering the aquatic system.
- b. Improved drainage – In addition to modifying culverts, drainage may be improved by water-barring, providing sub-surface drains, improving ditching, or other steps that would reduce erosion hazard, reduce water interception, and reduce hazards for slope and fill failure. Road cuts and fills may be treated to reduce erosion and potential for slumping.
- c. Limit access – Access may be restricted to limit the types of activities and times of the year when vehicle travel may be permitted. This may be done by using signing, gating (the current management method), barriers, administrative limitations, and other methods.
- d. Road closure – Roads may be barricaded to limit or eliminate traffic, subsoiled and planted, or reshaped by moving road fill so that the land surface more closely resembles natural contours. To reestablish natural drainage patterns roads may be bladed so that the existing gravel lift is moved into the ditch line and concentrated flows are reduced. Water bars, rolling dips and the out sloping of the road prism would direct surface water to the forest floor.

Road closure would be planned along BLM road 18-6-30.1 between Sections 19 and 20.

5. Monitoring

Prior to implementation of culvert removal and habitat restoration work, additional sampling to estimate current juvenile salmonid, other fish species populations and amphibian presence may be conducted in selected habitats using seining/electrofishing. Reference macroinvertebrate samples may also be collected at some sites above the barrier culverts prior to replacement.

B. Alternative 2 – Restoration without Culvert Removal

Alternative 2 would be similar to the proposed action except that potential removal of three culverts in Section 19 would not be considered for implementation.

C. Alternative 3 – No Action

Under a No Action Alternative, no additional actions would be taken to increase stream structure, remove culverts, restore riparian areas, or to stabilize roads. Culvert and road work already occur as part of the district road maintenance program; however, the emphasis would be on road stability and not on assisting with recovery of the aquatic system and its associated fauna. Under the No Action alternative, no stream channel restoration would be done and riparian restoration would be primarily associated with vegetation manipulation carried out for other purposes. Both the stream and riparian habitats would be expected to show only very gradual recovery over a much longer period of time as a result of management actions taken under this alternative.

D. Alternatives Considered but Not Analyzed

1. Stream Restoration with horses.

This method was considered as a low impact alternative to heavy equipment. Past experience with this method has shown that horses are not capable of pulling the size of logs proposed for this project.

2. Stream Restoration with helicopter.

This method was considered as a low impact alternative to using heavy equipment as related to ground disturbance and stream restoration. Since it was known that planned log weights would exceed helicopter lifting limits and that helicopters have an inability to effectively place boulders, this alternative was not addressed further.

IV. EXISTING CONDITIONS

A. General Setting - Fisheries

Wildcat Creek is a major tributary of the Siuslaw River and arises on the western slopes of the Coast Range. Ownership within the Wildcat Drainage is intermingled private and public and is managed primarily for timber harvest related activities (USDI, 1999). The BLM manages 40 % of the drainage (~14,000 acres) of which 46% is designated as GFMA (general forest) and 54 % is Late Successional Reserve (LSR). In addition to the mainstem Wildcat Creek, the basin contains a number of large named and many smaller unnamed tributaries. Chickahominy Creek is the largest tributary of Wildcat Creek and contains a small tributary called Shady Creek which is a proposed project stream. Other areas for proposed stream enhancement activities are found in the upper reaches of the Wildcat Creek mainstem (T18S, R7W, Section 13 and T18S, R6W, Section 19).

Runs of chinook salmon (*Oncorhynchus tshawytscha*), coho salmon (*O. kisutch*), steelhead trout (*O. mykiss*), sea run cutthroat trout (*O. clarki*) and Pacific lamprey (*Lampetra tridentatus*) are known to spawn in the Wildcat Creek drainage. In addition, resident cutthroat, western brook lamprey (*L. richardsoni*), sculpin (*Cottus sp.*), dace (*Rhinichthys sp.*), and reddsides (*Richardsonius balteatus*) have been observed in the drainage. BLM has conducted spawning counts since 1972 and the ODFW since the early 1950's in the Wildcat drainage. These counts have shown a general decline in anadromous fish species here, which is similar to other rivers and streams of the Oregon Coast. These declines are consistent with the coast-wide declines in salmonid runs, particularly coho salmon.

As described in the Wildcat Creek Aquatic Habitat Enhancement Plan (ODFW 1996), past management practices have degraded in-stream habitats for salmonid and other fish species. The loss of LWD due to stream cleaning has resulted in low pool to riffle ratios, reductions in cover components for aquatic species and increases in bedrock substrates. Recent BLM surveys have shown that proposed project areas in Shady and Wildcat Creeks have low levels of LWD and related stream complexity. Observations of coho populations in the Shady Creek project reach have shown good adult escapement, egg to fry survival, but low fry to smolt survival because of a lack of LWD and associated cover components. Roads built to log the drainage parallel much of Wildcat Creek and some of its tributaries. Culvert installations have disconnected many miles of suitable stream habitat for use by aquatic species. During the 2003 summer season the BLM conducted barrier culvert assessments on several culverts in proposed project enhancement reaches and found 6 of them to be partial or complete barriers to aquatic species. Nearly 2.5 miles of suitable stream habitat is located above these barrier culverts.

Although the BLM has been conducting stream enhancement activities in the Siuslaw Basin since 1969, little work has been completed in the Wildcat drainage on BLM managed lands. The most recent work was completed during 2001-2002, in the upper part of the drainage. At this time several barrier culverts were removed and a mile of road was decommissioned.

The potential for fish production in the Wildcat basin is good. The lower 12 miles of the mainstem could be suitable for chinook migration and spawning while the upper 10 miles contain stream gradients that are well suited for the propagation of the coho species. The proposed action is only addressing enhancement of coho habitat.

B. Wildlife

1. General Wildlife

This area currently provides foraging habitat for deer and elk, and also serves as hiding and escape cover for these species. There is evidence these species utilize these areas.

Except for the adjacent old-growth stands, there is a general lack of snags over 25 inches dbh and few that exceed 30 inches. Those that do occur here generally are less than 20 inches and are in early stages of decay. Consequently, species that rely on such structure for foraging, nesting, or denning are scarce within the project area. Such species would include bats, woodpeckers, and nuthatches.

As with snags, levels of Coarse Woody Debris (CWD) not associated with old-growth or mature stands within the areas are also low. There are some scattered large down logs in advanced decay, but most CWD in this area is characterized by small size and early decay stages. Large down logs are important as foraging substrates for a variety of species, retain moisture during dry periods and serve as refugia for various species of amphibians, reptiles, and rodents.

2. Threatened and Endangered Species

Within the three project areas addressed in this assessment, there are no known activity centers or suitable habitat for any terrestrial wildlife species listed or proposed for listing under the Endangered Species Act.

The stands near and adjacent to the proposed project areas are composed of typical Douglas fir/western hemlock habitat of varying seral stages. Proposed projects in T17S, R07W, Sec 29 and in T18S, R07W, Sec 13, are adjacent to old-growth or mature Douglas fir stands that could support nesting marbled murrelets and spotted owls. The proposed project area in T18S, R07W, Sec 19 is not within 0.25 mile of any such habitat.

The proposed action areas containing Critical Habitat for the marbled murrelet are T17S, R07W, Sec 29 and T18S, R06W, Sec 19. There is no Critical Habitat for the spotted owl located in any of the proposed action areas.

A historic spotted owl nest site (Chickahominy/MSNO# 25545) is located approximately 0.25 mile from the proposed action in T17S, R07W, Sec 29, and the core area is adjacent to a portion of the proposed project. No other known nest sites for the spotted owl, bald eagle, or marbled murrelet are located within one mile of the proposed action areas.

3. Other Special Status Species

No other special status species or unique habitats were encountered within the project area during various wildlife surveys associated with this proposed action.

C. Botanical Resources

The project areas were surveyed in the summer of 2003 for Special Status vascular plants, lichens and bryophytes. Only a single species was located, at Wildcat Creek in Section 13. *Poa laxiflora*, a grass and a Bureau Tracking species, was found in three locations about 110 and 190 feet apart. Older records of *Poa* in this location date to 1991. These sites are about 600 feet downstream of Project site two, and 750 feet upstream from Project site three (measured aerially); the nearest specific projects within the general project area.

Noxious weeds listed by Oregon State were found along roadsides, as follows.

Wildcat Creek Section 13: Himalayan blackberry, tansy ragwort, common St. Johnswort, Canada thistle, and bull thistle.

Wildcat Creek Section 19 (culverts): Himalayan blackberry, tansy ragwort, and common St. Johnswort.

Shady Creek: Noxious weeds were not found in the project area, but Himalayan blackberry and bull thistle occur on adjacent private land clearings and along the Nelson Mountain Road.

D. Geology and Soils

The Wildcat and Shady Creek areas are geologically mapped within the Tyee Formation that consists of arkosic marine sandstones that may include minor interbeds of tuff (Walker and Macleod, 1991). The Tyee Formation overlies the Flourney Formation and both share similar lithology. The Tyee Formation is composed of delta and turbidite sands from the Klamath Mountains while the Flourney formations were derived from local undersea volcanoes as well as sediment from the Klamath Mountains (Orr and Orr, 1996). Mountain side slopes in the area are typically steep with relatively uniform gradients from ridgetop to the valley bottom. Ridgetops are sharp and narrow. Dry raveling is associated with these slopes and is primarily active on the convex portions of the hillslopes. Debris avalanche occurs in areas where gradients exceed 70 percent typically off the fault scarps of the thick-bedded sandstone of the Tyee and Flourney Formations. Debris torrents may originate from first order headwater streams in the upper reaches where headwalls or hollows of drainages with slope gradients between 90-100 percent may be present.

The Wildcat Creek area lies in the Peavine-Blachly-Honeygrove Soil Association. These soils formed in material weathered from sandstone in the udic-mesic zone of the Coast Range (USDA, 1987). Soils in the riparian areas of Wildcat Creek include Cumley, Fluvents and Peavine. These soils form in colluvium and deposits of sediment of mixed sources. These soils are more poorly drained and have higher clay contents that may be poorly drained. Depth to bedrock may be 40 to 60 inches or more (USDA, 1987).

The Shady Creek area lies in the Bohannon-Digger-Preacher Soil Association. These soils formed from sandstone in the udic-mesic zone of the Coast Range (USDA, 1987). Soils in the riparian area of Shady Creek are mapped as a Meda loam. The Meda loam is a well-drained soil that forms in bottomlands in alluvium and colluvium. Permeability is moderate. Typically, the surface layer is very dark grayish brown loam about 8 inches thick. Subsoils reach to 60 inches or more (USDA, 1987).

E. Recreation

There are no designated recreation facilities or sites within or near the project areas. Recreation activities in or near these project sites are of a dispersed nature such as hunting, driving for pleasure, and some OHV activity – especially in the Upper Wildcat Culvert site (T18S-R6W-Sec19). OHV use in this area has caused some resource damage.

V. ENVIRONMENTAL CONSEQUENCES

A. Unaffected Resources

The following resources are either not present or would not be adversely affected by the proposed action or any of the alternatives: Areas of Critical Environmental Concern, regional or local air quality, prime or unique farmlands, cultural resources, floodplains, environmental justice, Native American religious concerns, hazardous or solid waste, wild and scenic rivers or wilderness. Water quality, riparian zones, and the habitat of the coho salmon are expected to benefit from the proposed actions.

B. Expected Consequences with All Action Alternatives

All proposed actions would require some short-term disturbance to the road right-of-way, riparian zone, and stream channel. All actions are in areas that have previously been disturbed by management activities. No new roads would be created as a result of the proposed actions, although temporary accesses would be needed for movement of equipment and materials from existing permanent roads to restoration sites in the stream channel.

Adverse consequences would include a transient increase in sediment from culvert removal/rehabilitation, road stabilization, and channel structuring; a reduction in overstory and understory vegetation in riparian areas during riparian site preparation and planting; and potential disturbance of fishes, invertebrates, and aquatic communities in the stream channel during culvert rehabilitation and channel structuring.

The consequences to vegetative characteristics associated with individual fisheries structures would be expected to be relatively low except in access routes used to move materials from roadways to the stream channel. Roading and tree yarding would result in soil disturbance and compaction as well as increase the likelihood of non-native and potentially noxious species entering and/or increasing in the project area. Surface soil disturbance could also result in disruption of soil dwelling fungal hyphae that play an important role in nutrient cycling and decomposition. Suggested botanical mitigation

measures listed in the *Mitigating Measures* section would help alleviate the potential for the increase or spread of non-native species, and minimize mycorrhizal disturbance.

As a result of the placement of structures in the stream, water surface levels would be raised at all flow levels. During peak flows more water would flow into riparian areas. Project designs limit the potential for erosion. The flooding of riparian areas provides a positive benefit for deposition of silts in riparian areas and increased groundwater infiltration. Previous stream projects that have raised water levels have resulted in an increase in wetlands in the adjoining riparian area. The projects would be expected to contribute to an overall improvement in water quality and reduced flooding downstream.

No habitat suitable for any federally listed or proposed terrestrial wildlife species would be modified by this proposal, but activities associated with this proposed endeavor would create noise above ambient levels typical of the areas. The resulting audio disturbance may disturb nesting owls and murrelets if present in the adjacent suitable habitat. The only known nest site for such species is the Chickahominy owl center near Shady Creek. This site is surveyed annually and, if nesting is determined, appropriate mitigation measures (timing modification) would be pursued.

The proposed action may result in a temporary disturbance of the riparian areas and may cause some species to abandon the area. It is expected these species would repopulate the area upon project completion. Because of improved culvert situations and increased complexity to the riparian area, the overall result of these proposed projects would be an improved habitat for terrestrial and aquatic species.

Based on survey results, no effects are anticipated to Special Status vascular plants, lichens or bryophytes. The *Poa laxiflora* sites are far enough from any specific activities that no effect is anticipated to these sites.

The small scale disturbance proposed would likely create opportunities for the spread of noxious weeds. Competition from native species should eventually eliminate the herbaceous weeds except along the roadsides, but the blackberries could persist indefinitely. Mitigation measures, including washing of equipment and removal of blackberries before project initiation, would lessen the risk of noxious weed spread.

Recreation activities may be disrupted while the project is being accomplished. The project area is within Visual Resource Management (VRM) Class IV, which allow for major modifications of the existing character of the landscape. The action alternatives would be compatible with this objective.

C. Alternative 1 – Proposed Action – Restoration with Culvert Removal

ISSUE 1: Effects on Attainment of ACS Objectives

To attain Aquatic Conservation Strategy (ACS) objectives within the proposed Riparian Reserves, specific management actions that are consistent with the Wildcat Creek Watershed Analysis have been included in the Proposed Action. Although the objectives of the ACS are best evaluated on a landscape or watershed scale, the following is a site specific analysis of the potential effects of the Proposed Action on the attainment of the ACS objectives.

Objective 1: The Proposed Action would maintain and contribute to the restoration of the distribution, diversity, and complexity of watershed and landscape features. The placement of structural materials in the channel would help to restore lost habitat necessary for all life cycles of salmonid and other indigenous aquatic species. Large woody debris (LWD) or key piece placements would help maintain future formations of back-water areas, deep rearing habitat (pools), off-channel and high flow refuges, and key spawning habitats. In addition, key piece placements would provide locations for the collection of additional woody debris (jam formation) that lead to increased channel complexity. The proposed riparian action to increase the percentage of conifers in the riparian area would ensure future “bench mark” levels (Moore, K. 1997) of large woody material in the channel, and snags and woody debris in the riparian area.

Objective 2: The Proposed Action would help restore the spatial and temporal connectivity within and between watersheds because of the proposed barrier culvert removal. Barrier removals would allow all aquatic species to move in an unobstructed fashion to and from species specific habitats in the watershed that have not been available for decades. In-channel log and boulder placements would help to restore the connectivity of the stream channel with the riparian zone in areas that are currently channel confined and downcut. Restored areas of connectivity may once

again function as water storage areas during critical low flow summer months, help reduce water temperatures, and function as a water filter.

Objective 3: The Proposed Action would maintain and contribute to the restoration of the physical integrity of the aquatic systems. The addition of log structures to degraded stream reaches would help the aggregation process, particularly in areas of bedrock dominance. The addition of these structures would also slow high stream velocities that may lead to unwanted scour.

Objective 4: The Proposed Action would maintain the water quality necessary to support healthy riparian, aquatic, and wetland ecosystems. In-channel log placements would help to restore the connectivity of the stream channel with the riparian zone in areas that are currently channel confined and downcut. Restored areas of connectivity may once again function as water storage areas during critical low flow summer months, help reduce water temperatures, and function as a water filter.

Objective 5: The Proposed Action would maintain and contribute to the restoration of the sediment regime under which this aquatic ecosystem evolved. Degraded habitats within the proposed project reaches, lacking in channel structure that prevent normal capture and distribution of sediments, would benefit from in-stream structural placements. The movement of logs (during the summer months) from roadside staging areas to the stream channel could result in the short term production of a minor amount of sediment in the event of a summer rain storm, but would only have negligible, short term effects on the riparian areas. Monitoring results from the Lolo National Forest indicate that between 1 to 2 cubic yards were introduced into the stream during and after culvert removal, but overall the stream effects are of short duration (USDA, 2000).

Objective 6: The Proposed Action would not have a negative effect on in-stream flows, nor influence the riparian, aquatic, or wetland habitats in the proposed project area, as related to retaining patterns of sediment, nutrient, and wood routing. Log placements would contribute to the slowing of stream flows and dissipation of stream energies associated with high flows in degraded habitat areas during periods of sediment transfer and deposition. These placements would also help supply water to off channel wetland areas, and help to restore the connectivity of the stream channel with the riparian (recharge riparian aquifers) in areas that are currently channel confined and downcut. The extent of the effect on flow related to evapotranspiration and interception and to removal of some hardwoods from and planting of young conifers (proposed riparian conversion) in the riparian zone is not certain but expected to be negligible.

Objective 7: The Proposed Action would maintain and contribute to the restoration of the timing, variability, and duration of floodplain inundation and water table elevation in wetlands. The proposed placement of structural materials should increase the amount and period of water storage in the wetland area.

Objective 8: The Proposed Action would contribute to the restoration of the species composition and structural diversity of plant communities and habitat to support well distributed populations of some riparian dependant species as related to requirements of riparian ground water storage, nutrient filtering, interaction between surface flows and ground water storage that create optimal soil moisture conditions for riparian vegetation. The proposed placement of structural materials should increase the amount and period of water storage in proposed project areas and help support wetland associated plant and animal communities. The proposed riparian conversion sites would hasten the development of future supply of large woody debris, which would contribute to the restoration and maintenance of the aquatic system complexity and stability.

Objective 9: The Proposed Action would maintain and contribute to the restoration of habitat to support well-distributed populations of many riparian dependant species by providing an immediate supply of channel structure (log habitat) to the stream. The placement of structural materials in the channel would help to replace lost habitat necessary for all life cycles of salmonid and other indigenous aquatic species. Large woody debris (LWD) or key piece placements would help maintain future formations of back-water areas, deep rearing habitat (pools), off-channel and high flow refuges, and key spawning habitats. In addition, key piece placements would provide locations for the collection of additional woody debris (jam formation) that lead to increased channel complexity. The proposed riparian action to increase the percentage of conifers in the riparian area (adjacent to the stream channel) would ensure future "bench mark" levels of large

woody material in the channel, and snags and woody debris in the riparian area for associated, dependant wildlife species.

Based on the above analysis of the effect on attainment of the ACS objectives, the action alternatives are consistent with the ACS and the objectives for the Riparian Reserves, and would not prevent or retard attainment of any of the ACS objectives.

ISSUE 2: Effects on Unauthorized OHV Use

Road Number 18-6-30.1 is controlled by Roseburg Forest Products Co. (RFP) and provides access to Section 20, which is privately owned by RFP. RFP has informed BLM that the company wants the road closed to prevent access to Section 20 (including unauthorized OHV use). The removal of the culverts and blockage of this road, for approximately 0.5 miles, would discourage OHV use.

D. Alternative 2 – Restoration with no Removal of Culverts

ISSUE 1: Effects on Attainment of ACS Objectives

Alternative 2 includes management within the Riparian Reserves similar to the Proposed Action and would have similar effects on most ACS Objectives. However, ACS Objective 2 would not be achieved because the obstructions (culverts) would continue to prevent upstream migration of most aquatic species unless the BLM replaced the barriers with aquatic species passage and appropriate in-stream mitigation.

ISSUE 2: Effects on Unauthorized OHV Use

Leaving the culverts in place on Road No. 18-6-30.1 would allow continued passage of OHVs to privately owned Section 20. RFP, the owner of Section 20, has informed BLM that the company wants the road closed to prevent access to Section 20 (including unauthorized OHV use). By choosing this alternative, OHV access to this location would not be prevented.

E. No Action Alternative

Under a No Action Alternative, no additional actions would be taken to increase stream structure, remove barrier culverts, restore riparian areas, or stabilize roads. Culvert and road work already occur as part of the district road maintenance program; however, the emphasis would be on road stability and not on assisting with recovery of the aquatic system and its associated fauna. Under the No Action alternative, no stream channel restoration would be done and riparian restoration would be primarily associated with vegetation manipulation carried out for other purposes. Both the stream and riparian habitats would be expected to show only very gradual recovery over a much longer period of time as a result of management actions taken under this alternative. There would be no impacts to wildlife through either habitat modification or disturbance. The areas proposed for treatments would continue to function as they have in the past. RFP, the owner of Section 20, has informed BLM that the company wants the road closed to prevent access to Section 20 (including unauthorized OHV use). By choosing this alternative, OHV access to this location would not be prevented.

F. Table

Summary of Effects - Wildcat Creek/Shady Creek Restoration			
Issues	Alternatives		
	Restoration with culvert removal	Restoration without culvert removal	No Action
Aquatic Conservation Strategy Objectives	Long term restore to Objectives 1,2,3,4,6,7,8,9 Temporary increase in sedimentation, Approximately 1 cubic yard per culvert removal; short term degrade to Objective 5	Long term restore to Objectives 1,2,3,4,6,7,8,9 Temporary increase in sedimentation; short term degrade to Objective 5	Potential for road fill failure in long term due to lack of maintenance; degrade of objective 5
Effect of project implementation on unauthorized OHV use	OHV use likely to be reduced from current use due to blockage of road (0.5 miles)	OHV use likely to continue	OHV use likely to continue

VI. MITIGATING MEASURES

A. The following mitigating measures have been identified:

Noxious Weed Control Mitigation Measures

1. Cleaning of heavy equipment would be required prior to entering project areas.
2. Operation of heavy equipment would be kept to a minimum in project areas.
3. Non-native blackberry plants (Himalayan and evergreen) and scotch broom would be pulled within project areas prior to equipment move-in (at road closure projects) and in the year after project implementation.

Spill Prevention Mitigation Measures

1. When working in or next to the stream channel, spill kits and an approved spill containment plan would be included in operations.
2. To reduce the potential for introduction of silt or petroleum products, when stream depth and channel conditions allow, use of a by-pass or retaining basin may be adopted.

Erosion Prevention Mitigation Measures

1. If needed, restored project areas would be hydro-mulched. Native or sterile straw bales (or an acceptable substitute) would be used for erosion controls as directed by the contracting officer.
2. Access routes would be seeded with native species mixtures. If native seed is not available and seeding is necessary for erosion control, an annual (70%) and perennial (30%) rye mixture would be used with strict guidelines on seed purity.

VII. ESSENTIAL FISH HABITAT

Programmatic Consultation has been completed for Essential Fish Habitat in the Wildcat Creek drainage for Oregon Coast Coho Salmon and Oregon Coast Chinook Salmon dated July 2, 2001 (OSB2001-0070-PC). Terms and conditions for riparian and in-stream work as described in the Programmatic Biological Assessment/Biological Opinion for the Oregon Coast Range Province as related to the Coastal Coho Evolutionarily Significant Unit (ESU) would be followed.

Coho salmon use the Wildcat Creek drainage for migration, spawning and rearing. The proposed project is in the ESU for the federally-listed threatened Coastal coho salmon. Coho salmon use in the Wildcat Creek basin has declined due to the reduction in the available spawning and rearing habitat and habitat disconnection caused by undersized barrier culverts. Chinook salmon have been known to utilize spawning habitat in the lower reaches of the Wildcat Creek drainage.

VIII. MONITORING AND EVALUATION

Prior to implementation of in-stream project work a photographic and descriptive record is made of existing habitats in project areas. Pre-project inventories are generally conducted in proposed enhancement reaches. In-stream restoration monitoring has been conducted annually since 1995. BLM has been conducting spawning surveys, population studies, and habitat surveys. When possible, project locations are identified using Global Positioning System (GPS). Collected GPS data is then added to the District GIS data system. Pre-work sampling to estimate current juvenile salmonid and other fish species populations is conducted in selected habitats using seining/electrofishing and/or snorkeling. Spawning counts conducted for up to 19 years provide a baseline for pre- and post-project comparison. Post project photographs are taken to show completed work and adjacent habitat prior to exposure to stream flow extremes. Successive photos are taken to document changes in project stability and effects on adjoining riparian and stream habitats. Spawning ground counts are continued in established index areas. Juvenile sampling, using snorkeling and electrofishing, is used to document use of structures. Information is also generally collected on non-salmonid fish species both before and after project work. Reference macroinvertebrate samples may be collected at some project sites. Tree survival and growth are documented in riparian restoration areas during at least the first five years following planting. Disturbance areas are monitored for invasive non-plant species.

IX. LIST OF CONTRIBUTORS

The following Bureau of Land Management specialists have examined the Proposed Action and alternatives and have provided either written or verbal input in this assessment:

Gary Hoppe	Team Lead
Leo Poole	Fisheries Biologist
Graham Armstrong	Hydrologist
Karin Baitis	Soil Scientist
Dan Crannell	Wildlife Biologist
Doug Goldenberg	Botanist
Saundra Miles	Recreation Planner
Mike Southard	Archeologist
Mark Stephen	Ecologist
Sharmila Premdas	Aquatic Ecologist
Rob Preece	Fisheries/EA writer

X. CONSULTATION AND COORDINATION

A. Private Lands and Road

Personal communications were conducted with adjoining private land owners with regard to proposed restoration activities and issues that could possibly affect private resources. A draft Memorandum of Understanding has been completed and would be signed by all cooperators before the Shady Creek Project begins. The cooperators include BLM, Siuslaw Watershed Council, Oregon Department of Fish and Wildlife, and Dave Eisler (private land owner).

B. Sensitive/Threatened Species

BLM has completed an inventory of resident and anadromous fish species on Federal lands within the project area that are classified as threatened or candidates for listing under the Endangered Species Act.

C. Wildlife

The Programmatic Biological Assessment addressing disturbance and this proposal related to Federally listed or proposed terrestrial animals was submitted to U.S. Fish and Wildlife Service (USFWS). Because of the potential for audio disturbance to marbled murrelets and spotted owls during the critical nesting period, this proposed action for the project sites "May Affect, and is Likely to Adversely Affect" these species. If the Proposed Action is conducted after August 5, 2004 the proposal would "Not Likely Adversely Affect (NLAA)" both the spotted owl and the marbled murrelet, and if the project occurs between July 7 and August 5, 2004 the call would be NLAA for the owl, but still Likely to Adversely Affect for the murrelet. The USFWS response, in the form of a Biological Opinion, was issued on February 5, 2004. Activities associated with projects within 100 yards of suitable murrelet habitat would not begin until 2 hours after sunrise and shall end 2 hours before sunset each day. There would be "No Effect" to bald eagles.

D. Coho

The proposed actions are consistent with the description and terms and conditions under the Programmatic Biological Assessment and Biological Opinion for Ongoing USDA Forest Service and USDI Bureau of Land Management Activities Affecting Oregon Coast Range Province, Oregon for the Oregon Coast coho salmon and designated "Critical Habitat" issued by the National Marine Fisheries Service (NMFS) - June 4, 1999 and extended on December 21, 2001 (OSB2001-0217-PC-RI) and October 18, 2002 (OHB 2002/00879).

E. Cultural Resources

No cultural resources have been identified to date in the actual project locations. All required cultural resource reviews have been completed. The Wildcat Creek and Shady Creek projects are within the Oregon Coast Range physiographic province and the terms of Protocol D as defined in the National Programmatic Agreement in Oregon (USDI, 1998) apply.

F. Wild and Scenic Rivers

In the 1995 Eugene District Resource Management Plan (RMP) portions of the Siuslaw River were found as eligible for designation under the Wild and Scenic Rivers Act. The primary outstanding

resource values were anadromous fisheries, wildlife and recreation. The proposed action project areas in Wildcat Creek and Shady Creek are not located in designated Wild and Scenic Rivers areas within the Siuslaw River Basin.

G. Navigability

Upper Wildcat Creek and Shady Creek and their tributaries are not recognized by BLM as navigable.

H. State and County Land Use

Aquatic and riparian habitat restoration was found in the District RMP to be compatible with existing State and County land use laws. The proposed actions are compatible with the Coastal Zone Management plans and goals.

I. Permits

All required permits would be obtained prior to the beginning of project work. The majority of restoration activities would require only a general authorization for fish habitat enhancement (Oregon Dept. of State Lands).

XI. REFERENCES

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- Orr E.L. and W.N. Orr. 1996. Geology of the Pacific Northwest. McGraw-Hill. USA
- USDI, Bureau of Land Management. June 1995. Eugene District Record of Decision and Resource Management Plan. Eugene District Office, Eugene, Oregon.
- USDI, Bureau of Land Management. February 1996. Siuslaw Watershed Analysis. Eugene District Office, Eugene, Oregon.
- USDI, Bureau of Land Management. August 1998. Protocol for managing cultural resources on lands administered by the BLM in Oregon. Oregon State Office, Portland, Oregon. 20pp.
- USDI, Bureau of Land Management. March 1999. Wildcat Creek Watershed Analysis District Office, Eugene, Oregon.
- USDA, Forest Service and USDI, Bureau of Land Management. February 1994. Final supplemental environmental impact statement on management of habitat for late successional and old-growth forest related species within the range of the northern spotted owl (Northwest Forest Plan).
- USDA, Forest Service and USDI, Bureau of Land Management. April 1994. Record of Decision for Amendments to Forest Service and Bureau of Land management Planning Documents within the range of the Northern Spotted Owl.
- USDA Forest Service and USDI Bureau of Land Management. January 2001. Record of Decision for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines.
- USDA, Soil Conservation Service. 1987. Soil Survey of Lane County Area, Oregon.
- USDA, Lola National Forest, Montana. 2000. Lolo National Forest Fisheries and Aquatic Monitoring Report Summary.
- Walker G.W., Macleod N.S. 1991. Geological Map of Oregon. U.S.G.S.

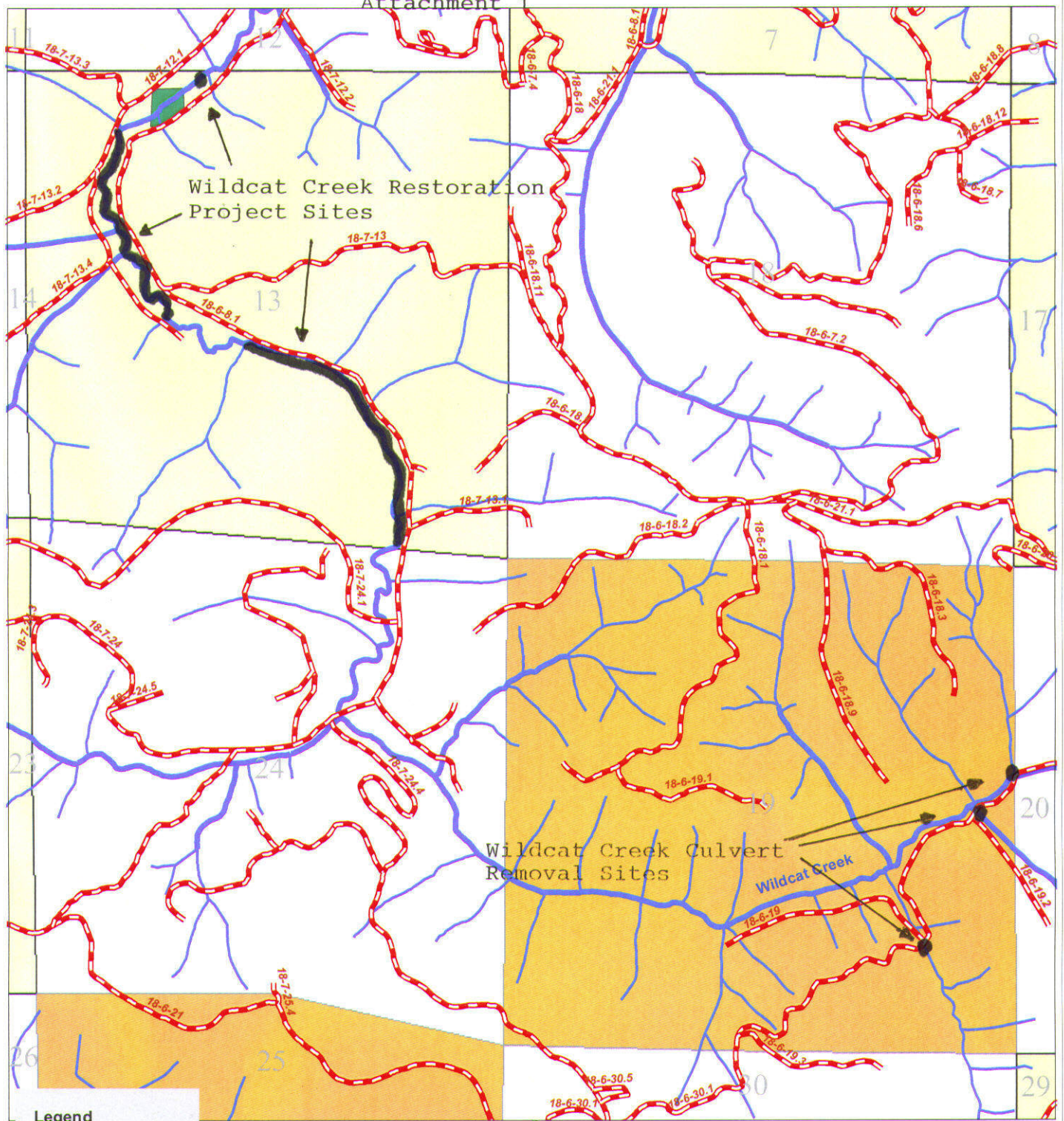
**UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
EUGENE DISTRICT OFFICE
Preliminary Finding of No Significant Impact
for
Wildcat Creek Drainage Aquatic Habitat Restoration Plan
EA No. OR090-EA-04-05**

Determination:

On the basis of the information contained in the Environmental Assessment, and all other information available to me, it is my determination that implementation of the proposed action or alternatives will not have significant environmental impacts beyond those already addressed in the Record of Decision (ROD) for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl (April 1994), and the Eugene District Record of Decision and Resource Management Plan (June 1995) as amended by the Record of Decision for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines, USDA Forest Service and USDI Bureau of Land Management January 2001, with which this EA is in conformance, and does not, in and of itself, constitute a major federal action having a significant effect on the human environment. Therefore, an environmental impact statement or a supplement to the existing environmental impact statement is not necessary and will not be prepared.

Steven Calish
Field Manager, Siuslaw Resource Area

Date



Legend

- Roads
- Stream Order**
 - <=2
 - 3-5
 - >=6
- Sensitive Plant Sites
- Land Use Allocations**
 - AMA
 - CON
 - DDR
 - GFMA
 - LSR

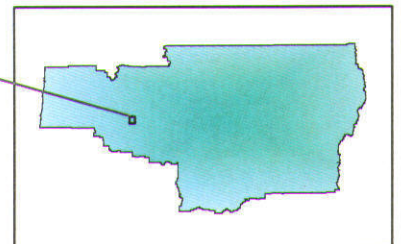
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T18S,R6W,SEC.19

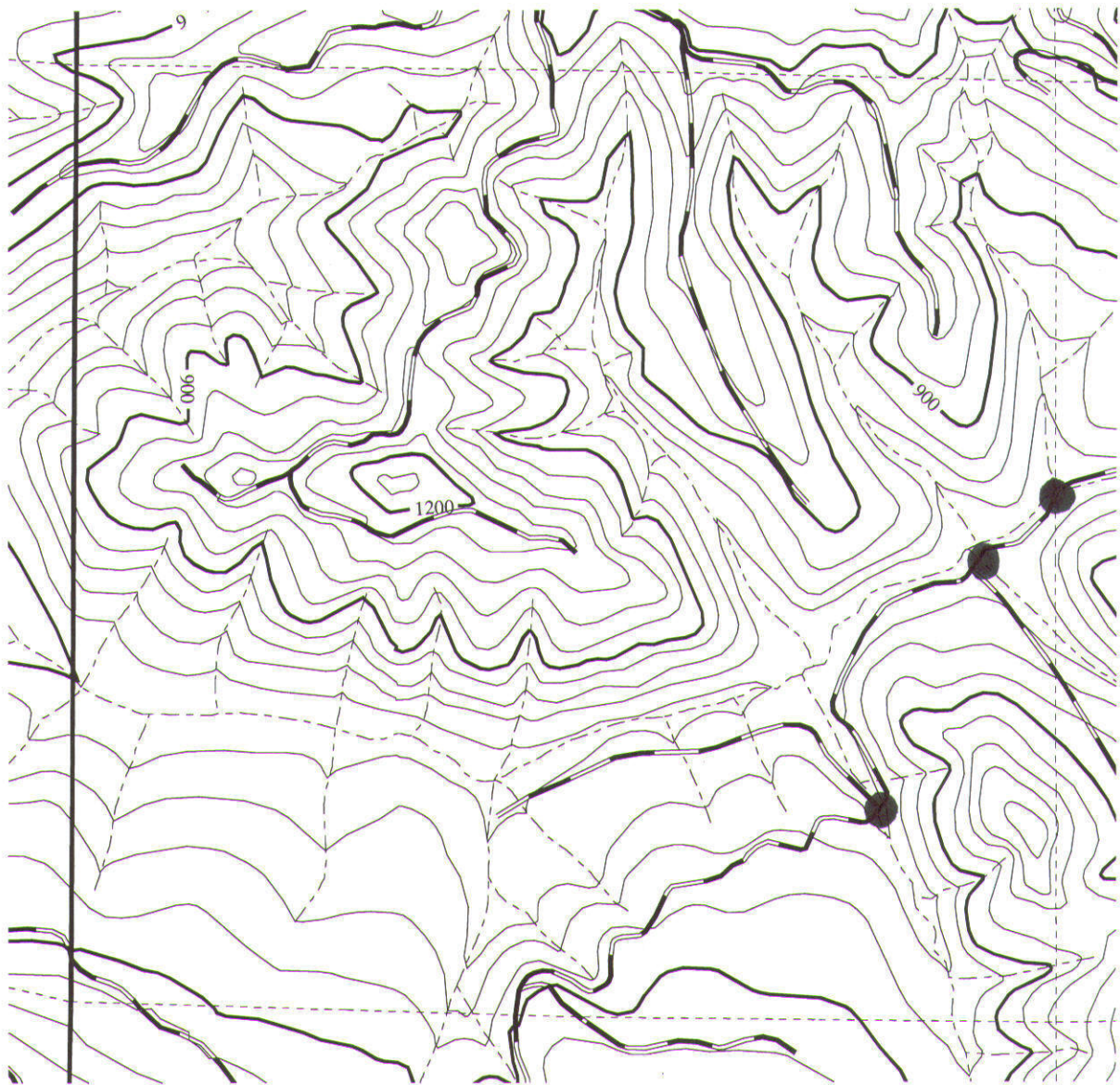
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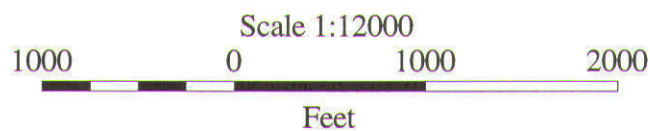


BLM
Streams
Roads

Wildcat Culvert Removal

T.18S, R.06W. Sec. 19

Contour Interval: 60 Ft





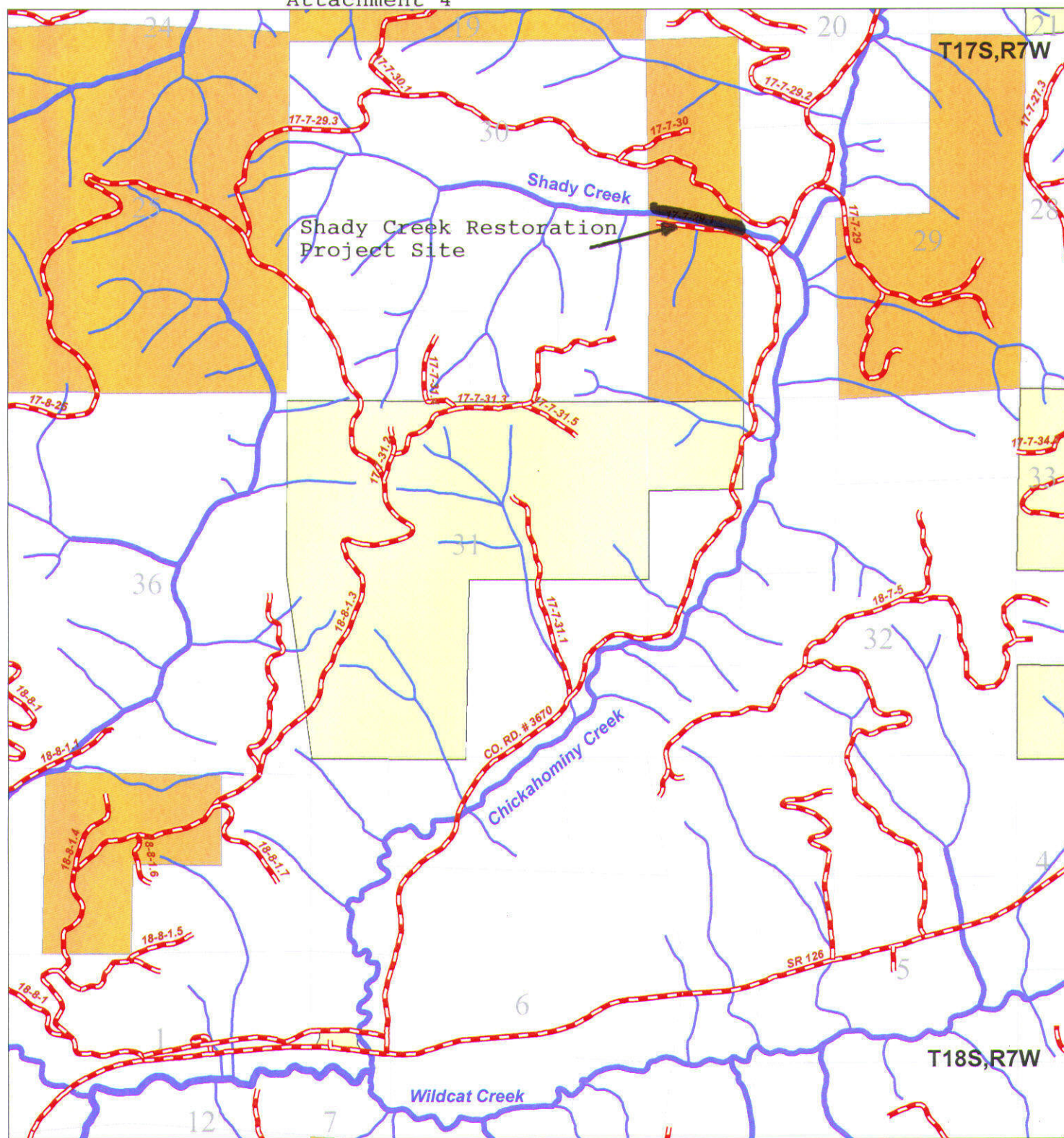
- BLM Streams
- Roads
- ++++++ Railroads

Wildcat Creek Restoration

T.18S, R.07W. Sec. 13

Contour Interval: 60 Ft





Legend

Roads

Stream Order

<=2

3-5

>=6

Sensitive Plant Sites

Land Use Allocations

GFMA

LSR

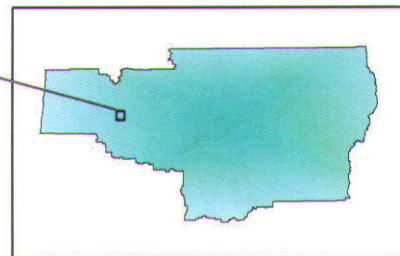
Shady Creek Project Area

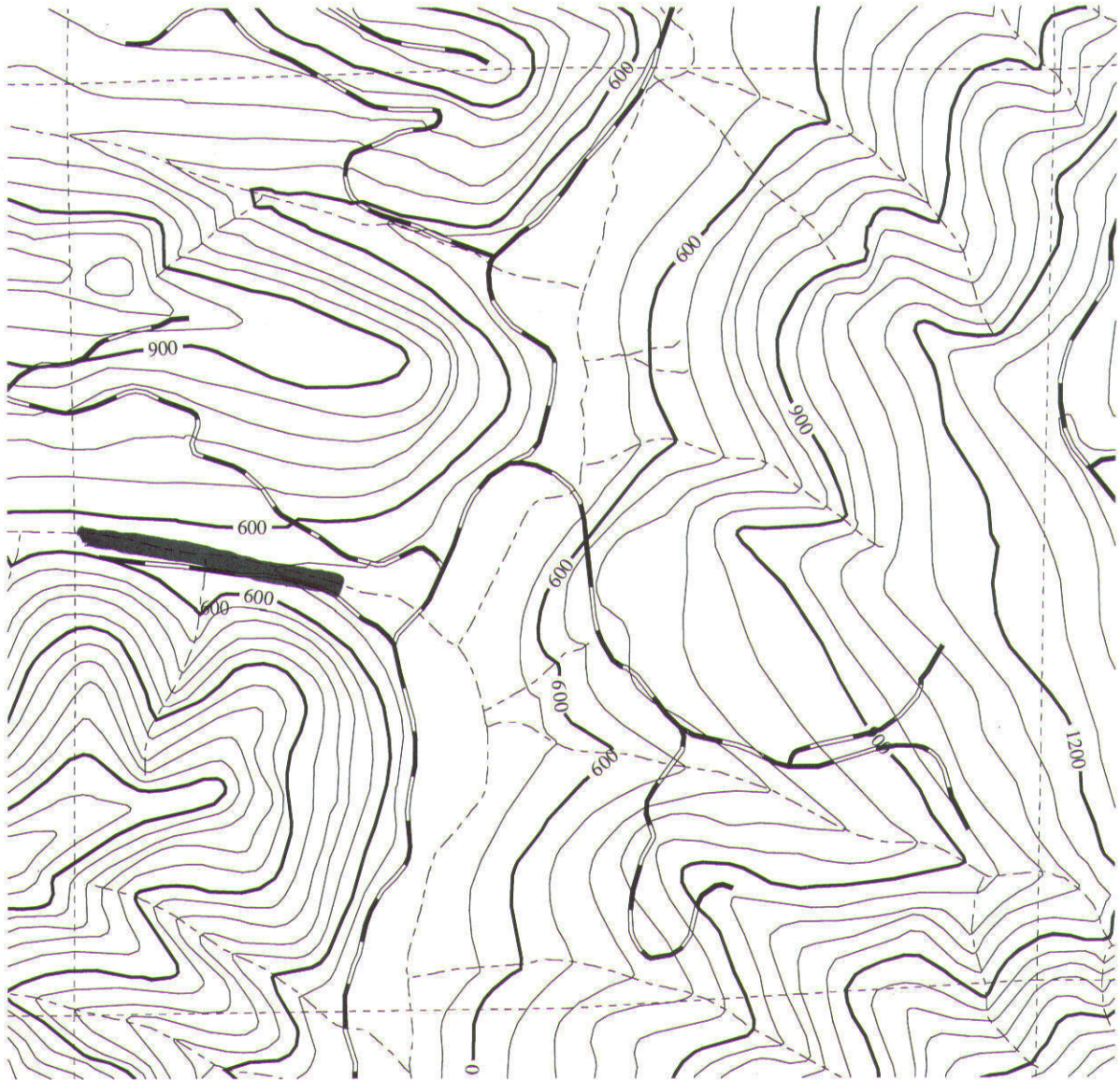
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Shady Creek Restoration

T.17S, R.07W. Sec. 29

Contour Interval: 60 Ft

- BLM Streams
- Roads
- +++++ Railroads

